

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
2 September 2004 (02.09.2004)

PCT

(10) International Publication Number  
**WO 2004/074622 A3**

(51) International Patent Classification<sup>7</sup>: **E21B 19/16**,  
17/02, 29/00

(74) Agent: **MATTINGLY, Todd**; Haynes and Boone, L.L.P.,  
901 Main Street, Suite 3100, Dallas, TX 75202 (US).

(21) International Application Number:  
PCT/US2004/004740

(81) Designated States (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(22) International Filing Date: 17 February 2004 (17.02.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
60/448,526 18 February 2003 (18.02.2003) US

(71) Applicant (*for all designated States except US*): **ENVENTURE GLOBAL TECHNOLOGY [US/US]**; 16200 A. Park Row, Houston, TX 77084 (US).

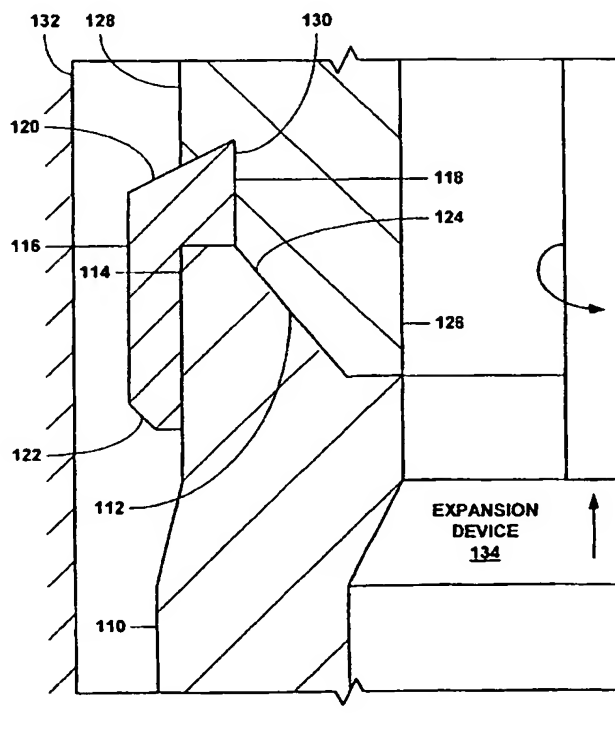
(84) Designated States (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK,

(72) Inventor; and

(75) Inventor/Applicant (*for US only*): **COSTA, Scott** [US/US]; 2011 Willow Point, Kingwood, TX 77330 (US).

[Continued on next page]

(54) Title: **PROTECTIVE COMPRESSION AND TENSION SLEEVES FOR THREADED CONNECTIONS FOR RADially EXPANDABLE TUBULAR MEMBERS**



(57) Abstract: A radially expandable multiple tubular member apparatus includes a first tubular member (110) and a second tubular member (128) engaged with the first tubular member forming a joint. A sleeve (116) overlaps and couples the first and second tubular members at the joint.

WO 2004/074622 A3



TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, MI., MR, NE, SN, TD, TG).

— before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

**Declaration under Rule 4.17:**

— of inventorship (Rule 4.17(iv)) for US only

**(88) Date of publication of the international search report:**

31 March 2005

**Published:**

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/US04/04740

<b>A. CLASSIFICATION OF SUBJECT MATTER</b> IPC(7) : E21B 19/16, 17/02, 29/00 US CL : 166/380, 242.1, 242.6, 206, 207; 285/333, 334, 382.1, 53 According to International Patent Classification (IPC) or to both national classification and IPC		
<b>B. FIELDS SEARCHED</b> Minimum documentation searched (classification system followed by classification symbols) U.S. : 166/380, 242.1, 242.6, 206, 207; 285/333, 334, 53, 382.1, 382.4 Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)		
<b>C. DOCUMENTS CONSIDERED TO BE RELEVANT</b>		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6,263,968 B1 (FREEMAN et al) 24 July 2001 (24.07.2001), Fig. 9B, column 2, lines 51-64, column 10, line 4 through column 11, line 15.	14, 16, 25, and 27
Y		1-13, 15, 17-24, 26, 28-46, 48, 49, 51-58, 66-85
Y	US 4,854,338 A (GRANTHAM) 08 August 1989 (08.08.1989), Figs. 3-4, column 6, lines 25-31.	1-13, 15, 22-24, 26, 56, 57, 66, 77, and 80
Y	US 5,031,370 A (JEWETT) 16 July 1991 (16.07.1991), Fig. 8 and claim 11.	17-20, 28-31, and 83
Y	US 4,401,325 A (TSUCHIYA et al) 30 August 1983 (30.08.1983), Figs. 2-4, column 2, line 52 through column 3, line 2; column 3, line 34 through column 4, line 13.	21, 32, 58, 61, 66-73, 75, 76, 78, 79, 81, 82, 84, and 85
Y	US 5,931,511 A (DELANGE et al) 03 August 1999 (03.08.1999), Figs. 1-1A.	33-44
Y	US 4,917,409 A (REEVES) 17 April 1990 (17.04.1990), Figs. 3-6.	53-55, 80, and 83
<input type="checkbox"/> Further documents are listed in the continuation of Box C. <input type="checkbox"/> See patent family annex.		
* Special categories of cited documents:		
"A"	document defining the general state of the art which is not considered to be of particular relevance	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"E"	earlier application or patent published on or after the international filing date	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"L"	document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"O"	document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family
"P"	document published prior to the international filing date but later than the priority date claimed	
Date of the actual completion of the international search 22 December 2004 (22.12.2004)		Date of mailing of the international search report 19 JAN 2005
Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (703) 305-3230		Authorized officer David Bagnell ✓ Telephone No. 703-308-1113